

A wireless chemiluminesce detector for in-situ monitoring for AFEC, Phase I

Completed Technology Project (2007 - 2007)



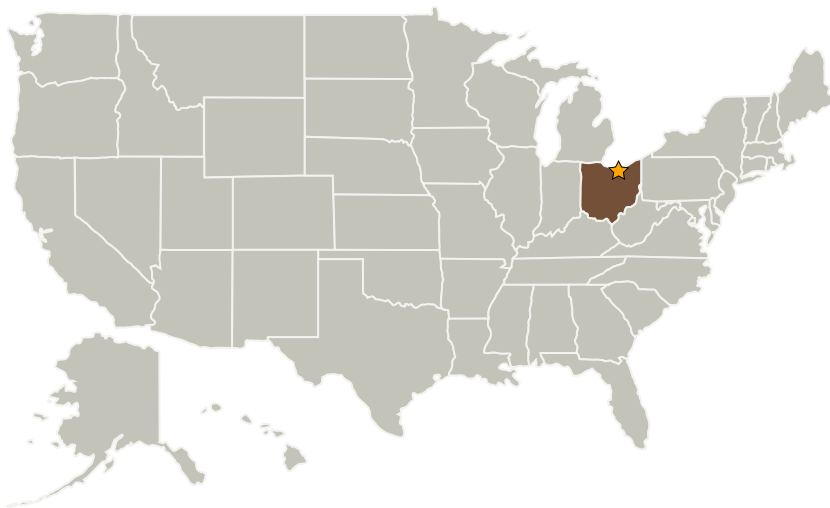
Project Introduction

Pentalim Inc. is developing a new sensor for the measurement of chemiluminescence of air breathing engine combustion. The sensor will be wireless and incorporate optical power scavenging technology that will increase its effective transmission range. The sensor will also incorporate Silicon Carbide electronic materials to enable in situ monitoring of combustion. This sensor will be applicable to both future propulsion systems as well as legacy and helicopter engines and will enable improved combustion instability, pattern factor and emissions control.

Anticipated Benefits

Potential NASA Commercial Applications: The sensor will be applicable to help enable the requirement This sensor will be applicable to both to both commercial and military air breathing engines in future propulsion systems as well as legacy and helicopter engines and will enable improved combustion instability, pattern factor and emissions control. Additionally, this sensor will be applicable to ground based turbine systems which also have stringent emissions and performance requirements.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Glenn Research Center (GRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★ Glenn Research Center(GRC)	Lead Organization	NASA Center	Cleveland, Ohio
Pentalim Corporation	Supporting Organization	Industry	Findlay, Ohio

Primary U.S. Work Locations

Ohio

Project Transitions

**January 2007:** Project Start**July 2007:** Closed out**Closeout Summary:** A wireless chemiluminesce detector for in-situ monitoring for AFEC, Phase I Project Image

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Project Manager:

Philip G Neudeck

Principal Investigator:

Dave Hiscock

Technology Areas

Primary:

- TX01 Propulsion Systems
 - └ TX01.3 Aero Propulsion
 - └ TX01.3.1 Integrated Systems and Ancillary Technologies